

REMARKS

Upon entry of the above amendments, this application will contain claims 72-134 pending and under consideration. Claims 72-133 were rejected under 13 USC §112, first and second paragraphs, and claims 72, 91 and 111 were rejected under 35 USC §102(e) over Pafford et al. (US 6,371,988) In the present Response, new claim 134 has been added. For the reasons discussed more fully below, it is believed that the invention as claimed is patentable. Withdrawal of all rejections and timely allowance of this application is requested.

Objections to the Specification

The specification was objected to for failing to provide proper antecedent basis for the claimed subject matter. The Applicants maintain that the application as filed provides adequate support for the claimed invention. However, in order to advance the prosecution of the present application, the specification has been amended as shown on page 2.

Paragraph 67 has been amended to include the following sentence: "Each of dowels 500 are illustrated as having a width less than approximately one-half of the width of the adjacent vertebral body." (See Fig. 6, in the published Application 2004/0073309 ¹) It is believed that support for the amendment can be found in Fig. 6 as originally filed.

Rejections Under 35 USC §112

Claims 72-133 were rejected under 13 USC §112, first paragraph, for failing to comply with the written description requirement. Specifically, it was alleged that the following phrase "...opposed upper and lower portions between said leading and trailing ends adapted to be placed at least in said upper and lower portions being non-arcuate along at least a portion of the length of the implant found in claims 72, 91 and 111 was not described in the specification. The Applicants respectfully traverse this rejection.

The subject matter of the claims need not be described literally, i.e., using the same terms. (MPEP 2163.02) The test for sufficiency is whether the disclosure reasonable conveys to the artisan that the inventor(s) have possession of the subject matter at the time of the filing date sought. (Id.) The specification describes various embodiments of implants including those with

¹ Throughout this Response references to the captioned application will be to paragraphs (and line numbers) found in the published application US 2004/0073309.

upper and lower flattened portions. para. 78). It is believed that the flattened portions of the walls provide adequate support for the claimed invention including upper and lower portions being non-arcuate along at least a portion of the length of the implant.

It was also alleged in that the phrase "...less than approximately one-half of the width of the adjacent vertebral bodies" found in claims 71 and 91 constitutes new matter. The Applicants also respectfully traverse this rejection. Adequate support of this phrase can be found in Figures 6, 8, and 9. In each of these figures, dual bilateral placement of the implants on top of a vertebral body and within a disc space are depicted. Since the Figures clearly illustrate two implants bilaterally, i.e., --placed side-by-side, where each implant is approximately the same size, and where the entire exterior surface of both implants are within the outline of the vertebral body, therefore, the implants must be less than half the width of the adjacent vertebral bodies. In light of the above, it is believed that the Application as originally filed and provides sufficient support for the claimed invention. Therefore withdrawal of all the rejections under 35 USC §112, first paragraph of the pending claims 72-133 is requested.

Claims 72-133 were rejected under 35 USC §112, second paragraph as being indefinite. Specifically, it was alleged that the phrase "...upper and lower portions being non-arcuate along at least a portion of the length of the implant" found in claims 72, 91, and 111 was a relative phrase that rendered the claims indefinite. The Applicants respectfully traverse this rejection.

It is respectfully suggested that the claims (and/or the specification) have been misconstrued. The claimed invention is directed to a spinal implant that has among other features, upper and lower portions, which are non-arcuate along the length of the implant. The implant has non-curved portions or flat portions in the upper and lower surfaces. Support for this can be found in the specification in para 78. The specification specifically notes that the height of the implant can be reduced by filing. (para. 78, lines 4-6.) This would necessarily entail, referring to Figs. 8 and 9 for orientation, flattening portions of the implant sides that contact the endplates of the adjacent vertebral bodies. In Figs. 8 and 9 this would be the side of the implants in the plane of the paper. It is submitted that one skilled in the art would readily understand what is claimed in light of the specification.

If it would advance the prosecution of the present application the undersigned would be willing to submit one or more additional drawing(s) illustrating this embodiment of the claimed invention--using paragraph 78 for support--and therefore without introducing new matter.

Rejections under 35 USC §102

Claims 72, 91, and 111 were rejected under 35 USC §102(e) over Pafford et al. (US 6,371,988, "Pafford") It is respectfully suggested that Pafford does not anticipate the present invention as claimed. Pafford does not describe or make non-obvious the claimed invention including implants having upper and lower portions, which are non-arcuate along at least a portion of their length.

Referring to Pafford, Figs. 7 and 47-49 each illustrate implants with arcuate upper and lower portions. The opening or chamber 25 for implant 40 in Fig. 7 opens into the upper and lower surfaces, which contact the endplates of the respective vertebral bodies. Similarly, for the implants 20 and 40 illustrated in Figs. 47-49, chamber 25 opens into a portion of the respective implants that would correspond to the upper and lower surfaces of the claimed invention.

For reference, please refer to Figs. 6 and 24 and the text accompanying these figures. The chamber 25 typically contains an osteogenic composition. When the implants are positioned in the disc space, the chambers are opposite the endplates of the respective vertebral bodies. This is important to facilitate bone fusion between the adjacent vertebra. (See Fig. 6 ref. 30, and col. 7, lines 50-56.) Therefore, it is the portion of the implant with the openings into chambers 25 that correspond to the upper and lower surfaces of the present invention. As it can be clearly seen in each embodiment illustrated in Pafford, these portions of the implants do not include non-arcuate portions.

In contrast, the "tooled beveled space" referred to in the Office Action, are on the side walls, which would correspond to the interior facing side and the exterior facing side of the claimed invention. (Office Action, page 5, para. 9.) With the implants orientated as described above, it is believed that Pafford does not disclose or make obvious the invention claimed in claims 72, 91, and 111. Therefore withdrawal of the rejections of claims 72, 91, and 111 is requested.

New Claim

New claim 134 has been added. New claim differs from claim 72 by further defining the interrelationship between the external side and the leading end found in the fourth subparagraph beginning on line 16 of the claim. Support for this claim can be found in the specification and

particularly in Figs. 14 and 16A-16D. Therefore it is believed that this claim does not add any new matter.

Conclusion

The Applicants respectfully request timely examination of this application leading to allowance of all pending claims. The Examiner is invited to contact the undersigned attorney by telephone if there are any questions about this Response or other issues that may be resolved in that fashion.

Respectfully submitted,

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